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SUBJECT: DOE SECRETARY CHU DISCUSSES CLEAN COAL TECHNOLOGY AND
FUTUREGEN COOPERATION WITH CHINA'S LARGEST POWER PRODUCER

REF: BEIJING

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(U) Sensitive but unclassified. Please handle accordingly.

Summary

1. (SBU) On July 16, Secretary Chu met with CAO Peixi the president of Huaneng Group, China's largest power producer. The two met at Huaneng's Gaobeidian showcase cogeneration power plant in Beijing to discuss the energy giant's effort to reduce sulfur and nitrogen oxide (SOx and NOx) and carbon dioxide (CO2) emissions while improving overall efficiency at the company's coal-burning plants. The two also discussed how power producers can increase installed renewable energy capacity and lessen the firm's reliance on coal. Finally, Secretary Chu asked Cao to reconsider Huaneng's recent decision to pull out of the U.S. FutureGen project, which is intended to demonstrate large-scale coal gasification and carbon capture and sequestration (CCS) technologies. Huaneng executives

explained their motivations for pulling out of the project, but said that they would now reconsider their decision given FutureGen's revised direction under the new U.S. Administration. END SUMMARY.

Huaneng's Clean Energy and Carbon Capture Efforts

¶2. (SBU) Cao provided an overall profile of the Huaneng Group, noting that the state owned enterprise is China's largest power producer, accounting for nearly 11% of the country's total power output. Coal is the firm's primary source of energy, accounting for 83 percent of Huaneng's power output, while hydro makes up 16 percent, and the remaining 1 percent comes from other sources. According to Cao, Huaneng's strategic goal is to increase total installed capacity due to renewable energy sources from today's 16 percent to 25 percent by 2015 and 35 percent by 2020. They are doing this by investing in large-scale wind and solar plants, including a planned 160 MW solar plant and China's first 10 MW solar photovoltaic plant, which will soon commence operation.

¶3. (SBU) The Huaneng president emphasized the firm's efforts to implement strict environmental regulations and to close down several small inefficient coal generating units. Cao also said that 85 percent of Huaneng's coal-fired power-generating units are equipped with desulfurization equipment and that the firm is in the process of retrofitting all of its facilities for NOx capture as well. In response to Secretary Chu's question regarding reports of Chinese power plant operators disabling SO2 scrubbers and sensors to sell more energy, Cao said that Huaneng has implemented a program to enhance environmental awareness among its managers and employees and has taken concrete steps to link salary and compensation to environmental performance. Cao also said that Ministry of Environmental Protection has greatly improved its remote monitoring capabilities and he feels that the issue of illegal disabling of

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scrubber equipment has changed dramatically in the last two years and is no longer the significant problem that it once was.

¶4. (SBU) In explaining Huaneng's efforts to develop CCS technology, Cao said that the Gaobeidian plant, which supplies power to approximately 30% of Beijing's population, is the first commercial coal-fired plant in China to install carbon capture equipment; however, the volume of CO2 captured is relatively small at 3,000 tons per year and it is not sequestered underground. The CO2 captured from the power plant's exhaust gases is sold to local industry for use in carbonating soft drinks. Cao said that Huaneng, in partnership with Shanghai Electric, is using knowledge gained from the Gaobeidian facility to design a much larger facility in Shanghai that will capture 100,000 tons of CO2 per year and will be operational in time for the Shanghai Expo in 2010. Cao also detailed Huaneng's role as the lead partner in the Greengen Company, noting that the first phase of the Greengen plant near Tianjin is already under construction with the phase one operation expected to begin in 2011. The initial phase one 250-megawatt plant--later expanding to 650-megawatts--will demonstrate integrated gasification combined cycle (IGCC) technology on a commercial scale and will also include a major carbon capture demonstration project designed to provide enhanced oil recovery.

Huaneng Reconsidering Decision to Abandon FutureGen

¶5. (SBU) Secretary Chu raised Huaneng's recent decision to pull out of the Futuregen alliance and asked company executives, who were present at the meeting, to reconsider their position. [NOTE: The Futuregen project--which is analogous to China's Greengen project--was intended to demonstrate advanced coal-gasification plant and zero emissions technology in the United States by combining electricity and hydrogen production with the near elimination of harmful emissions through the sequestration of CO2 underground. Since the inception of the project it has experienced several setbacks due to rising costs and changing priorities. In June, two of the largest Futuregen alliance partners, both major U.S. coal-burning utilities, pulled out, with Huaneng following suit in early July. END NOTE.] Huaneng officials explained that the decision to withdraw from Futuregen was driven by the following three reasons: in July 2008, the U.S. Department of Energy informed

Huaneng that it was no longer supporting the Futuregen program; Futuregen project costs had nearly doubled between 2003 and 2009; and finally the two largest U.S. partner firms had pulled out in June signaling the collapse of the project.

¶6. (SBU) Secretary Chu said that he is reversing the decision on Futuregen, noting that U.S. DOE now strongly supports the program but with a revised direction that will strive for a more pragmatic, cost-effective approach to the technology demonstration project. He also noted that DOE is looking for new utility partners and that the

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U.S. president believes it is important to demonstrate full-scale gasification and CCS technology. Cao said that he will reconsider the decision to withdraw from Futuregen and get back to the Secretary in a reasonable amount of time, adding that he will order relevant departments at Huaneng to review the impact of rejoining Futuregen, factoring in the revised course under new U.S. leadership. Secretary Chu offered to provide Cao with revised cost estimates and details of efforts to revitalize the project and also encouraged him to visit the U.S. to see CO2 sequestration sites first-hand. Cao said he would very much like to visit these sites and to discuss CCS with experts at the U.S. national laboratories.

¶7. (U) Secretary Chu did not have an opportunity to review this report before departing Beijing.

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